

Application No.: 10/781,809

REMARKS

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph. It is respectfully submitted that the enclosed amendment obviates the alleged indefiniteness raised by the Examiner. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 1 is the sole elected independent claim and stands rejected under 35 U.S.C. § 102 as being anticipated by Tsutsumi '792 ("Tsutsumi"), and claims 2-4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsumi. In order to expedite issuance of the present application, claim 1 has been amended, without prejudice/disclaimer to the subject matter embodied thereby, to incorporate the subject matter of claim 2. Accordingly, the § 102 rejection has been rendered moot. The § 103 rejection is respectfully traversed for the following reasons.

With regard to claim 2, the Examiner admits that Tsutsumi does not disclose the claimed dimensional features but apparently alleges that the claimed dimensional features would have been obvious to one of ordinary skill in the art in view of routine experimentation absent a showing of criticality of the claimed features (the Examiner relies on the well-known *In re Woodruff* case to support this position). However, it is respectfully submitted that the "routine experimentation" basis for an obviousness rejection can only be relied upon by the Examiner if the prior art *first recognizes the modified parameter as a result-effective variable*. In the instant case, only Applicants have recognized and considered the importance of the *relative* dimensions of a dummy pattern as a result-effective variable, so that the Examiner can not rely on the obviousness-theory of "routine experimentation" as a basis for asserting obviousness of the claimed relative dimensions.

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The Examiner is directed to MPEP § 2144.05(II)(B) under the heading "Only Result-Effective Variables Can Be Optimized", which sets forth the applicable standard for determining result-effective variables:

A particular parameter must first *be recognized* as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. (citing *In re Antonie*, 195 USPQ 6 (CCPA 1977)).

In the instant case, the cited prior art appears to be completely silent regarding the relative dimensions of a dummy pattern achieving a recognized result, so that there is no basis for alleging obviousness thereof.

Indeed, the requirement to show criticality arises only when the Examiner has already established a *prima facie* case of obviousness by properly establishing *prior art recognition* of the modified parameter (in this case, relative dimensions of dummy pattern) so that the specifically claimed dimensions could be considered obvious (see MPEP § 2144.05(III) ("Rebuttal Of *Prima Facie* Case Of Obviousness"), which references the *In re Woodruff* case relied on by the Examiner). Accordingly, as there is no referenced prior art recognition that the relative dummy pattern dimensions achieve a known result, it is respectfully submitted that the Examiner has failed to satisfy the requirements for establishing a *prima facie* showing of obviousness under § 103.

In any event, it is respectfully submitted that the claimed combination of the present invention can provide new and unexpected results which are not suggested or contemplated by the cited prior art. Specifically, due to the claimed shape of the dummy pattern, the dummy pattern's resistance to forces applied from respective directions during polishing, for example, can be made non-uniform in its longitudinal and transverse directions. Accordingly, the film

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strength can be increased compared to a dummy pattern having, for example, a square shape with as large an area.

In addition, due to the claimed *combination* including the recited relative dimensions, it can be made possible to prevent the generation of scratches and flaws at an upper surface of the substrate and allow the, e.g., SiN film to carry out a sufficient stopper function during, e.g., a CMP process. In this regard, the relative dimensions of the dummy pattern is critical to achieve the aforementioned effects.

As mentioned above, the cited prior art appears to be completely silent as to recognizing that the *relative* dimensions of a dummy pattern can achieve known results, let alone suggest the particular effects discovered solely by Applicants. Accordingly, it is respectfully submitted that claim 1, as amended, is not obvious over the cited prior art. Moreover, even assuming *arguendo* the proposed modification of prior art is obvious, the combination as recited in claim 1 establishes effects not recognized by the cited prior art so as to be critical and thereby successfully rebut any alleged obviousness of the proposed modification to the cited prior art.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 1 because the cited prior art fails the "all the claim limitations" standard required under § 103.

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Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination. Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 102/103 be withdrawn.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

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